

**REMARKS**

Reconsideration and allowance of the above-identified application are respectfully requested.

Claims 1-74 are currently pending, wherein claims 1, 7, 9, 18, 27, 29, 38, 44, 46, 55, 62 and 66 are independent. Claims 1-38, 44, 46, 50, 55, 64, 66 and 70 have been amended. Independent claims 1, 18, 38 and 55 have been amended to recite that the decision circuit is directly responsive to the high-pass filter. Claims 7, 27, 44 and 64 have been amended to write these claims independent form, including all of the limitations of the base claim and any intervening claims. These amendments do not narrow or otherwise limit the scope of the claims. The amendments to the claims are fully supported by the present application. No new matter has been introduced by way of these amendments.

The specification has been amended to replace the paragraph beginning at page 9, line 16 merely to correct a grammatical error. No new matter has been introduced by way of these amendments.

Applicant notes with appreciation the characterization by the Patent Office of the allowability of claims 9, 29, 46 and 66 if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Applicant hereby amends claims 9, 29, 46 and 66 to write these claims in independent form. Applicant respectfully submits that claims 9, 29, 46 and 66 are allowable.

Applicant notes with appreciation the acknowledgment by the Patent Office of the references submitted in the Information Disclosure Statement of August 24, 2000.

In the first section of the Office Action, the drawings are objected to, because Figures 1 and 2 should be designated by an appropriate legend, as it is alleged by the Patent Office

that only that which is old is illustrated. Applicant hereby amends Figures 1 and 2 to include the designation -- RELATED ART --, in compliance with M.P.E.P. § 608.02(g).

In addition, in the second section of the Office Action, the drawings are objected to, because the numerals labeled for the block elements of Figures 1, 3 and 6-8 are too far away from the block elements. Applicant hereby amends Figures 1-9 to move the numerals closer to the respective block elements. The Patent Office's approval is respectfully requested for the amended FIGS. 1-9. Accordingly, reconsideration and withdrawal of these grounds of objection are respectfully requested.

In the third section of the Office Action, the disclosure is objected to, because of the following informalities: on page 2, line 5, "106" (both occurrences) should be "105"; and on page 7, line 30, "312" should be "302". Applicant hereby amends the specification merely to correct these informalities. No new matter has been introduced by way of these amendments. Accordingly, reconsideration and withdrawal of these grounds of objection are respectfully requested.

In the fourth section of the Office Action, claims 1-17 and 19-74 are objected to, because of the following informalities: in claim 1, line 6, "feed forward" should be "feedforward"; in line 1 of claims 2-17 and 19-37, "circuit" should be "apparatus"; in claim 13, line 3, and similarly in claims 33, 50 and 70, "filtering" should be "filtering postcursor ISI"; in claim 17, line 1, "15" should be "16"; in claim 38, line 4, "signal" should be "signal;"; in claim 38, line 8, "feed forward" should be "feedforward"; in claim 46, line 4, "and" should be in the same line with the equation; and in claim 55, line 1, "A signal processing apparatus" should be "An Ethernet transceiver". Applicant hereby amends the claims merely to correct these informalities. These amendments do not narrow or otherwise

limit the scope of the claims. No new matter has been introduced by way of these amendments. Accordingly, reconsideration and withdrawal of these grounds of objection are respectfully requested.

In the sixth section of the Office Action, claims 38-54 are rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. More specifically, in claim 38, lines 5-6, "said input circuit" lacks clear antecedent basis. Applicant hereby amends claim 38 merely to clarify the language of the claim to recite "an input *circuit* for inputting an input signal into an Ethernet cable". These amendments do not narrow or otherwise limit the scope of the claims. No new matter has been introduced by way of these amendments. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

Applicant would like to thank Examiner Young Tse for the personal interview conducted on December 17, 2003. In compliance with M.P.E.P. § 713.04, the substance of that interview is incorporated in the foregoing amendments to the claims and in the following remarks.

During the interview, claims 1, 18, 38, and 55 were discussed. More specifically, the rejection of claims 1-8, 10-28, 30-45, 47-65 and 67-74 under 35 U.S.C. § 102(e) as allegedly being unpatentable over Samueli et al. (U.S. Patent No. 6,178,198, hereinafter "Samueli") was discussed. No agreement was reached. This rejection is respectfully traversed.

Samueli discloses a system for, and method of, converting analog signals received at a client from a repeater to corresponding digital signals. According to Samueli, and as illustrated in Figure 5, the pre-cursor and post-cursor responses (resulting from signal degradations) in the digital signals are respectively inhibited by a feed forward equalizer and a decision feedback equalizer. A high-pass filter and a tail canceller also inhibit the post-

cursor response of the digital signals by limiting the time duration of the post-cursor response. In particular,

the signals from the analog-to-digital converter 48 are introduced to a high pass filter 100. The signals from the high pass filter 100 in turn pass to a feed forward equalizer 102 . . . . The signals from the feed forward equalizer 102 are introduced to an adder 104 which also receives signals from an adder 106. [Samueli, column 8, lines 49-55]

Thus, Samueli discloses that the adder (soft decision circuit) 104 and quantizer 112 are directly responsive to the feed forward equalizer 102. The feed forward equalizer 102 is directly responsive to the high-pass filter 100.

It is respectfully submitted that Samueli does not disclose the feature of a decision circuit *directly responsive to the high-pass filter*, as recited in claim 1 of the present application. As illustrated in Figure 5 of Samueli, the decision circuit (which the Patent Office argues is the combination of the soft decision circuit 104 and the quantizer 112) is directly responsive to the feed forward equalizer 102, *not* the high-pass filter 100. Consequently, it is respectfully submitted that Samueli does not anticipate the subject matter of independent claim 1.

Independent claims 18, 38, and 55 recite features similar to those recited in independent claim 1, and are, therefore, patentably distinguishable over Samueli for at least those reasons state above with regard to claim 1.

Dependent claims 2-6, 10-17, 19-26, 30-37, 39-43, 47-54, 56-63 and 67-74 variously depend from claims 1, 18, 38 and 55, and are, therefore, patentably distinguishable over Samueli for at least those reasons stated above with regard to claims 1, 18, 38 and 55.

In addition, it is respectfully submitted that Samueli does not disclose the feature of a high-pass filter comprising a finite impulse response (FIR) filter, as recited in independent claim 7 of the present application.

Independent claims 27, 44 and 64 recite features similar to those recited in independent claim 7, and are, therefore, patentably distinguishable over Samueli for at least those reasons state above with regard to claim 7.

Dependent claims 8, 28, 45 and 65 variously depend from claims 7, 27, 44 and 64, and are, therefore, patentably distinguishable over Samueli for at least those reasons stated above with regard to claims 7, 27, 44 and 64.

For at least the foregoing reasons, it is respectfully submitted that Samueli does not anticipate the subject matter of claims 1-8, 10-28, 30-45, 47-65 and 67-74. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

All of the rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, the Examiner is urged to contact the Applicant's attorney, Andrew J. Bateman, by telephone at (202) 625-3547. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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